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GOVERNMENT OF THE PROVINCE OF SASKATCHEWAN
DEPARTMENT OF AGRICULTURE



The Grading of Cream

An address delivered by W. A. Wilson, Dairy Commissioner,
before the Saskatchewan Dairymen's Convention, held
at Saskatoon, February 6, 1912.

*PUBLISHED BY DIRECTION OF THE HONOURABLE W. R. MOTHERWELL,
MINISTER OF AGRICULTURE.*



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PAYING FOR CREAM ACCORDING TO ITS QUALITY AS DETERMINED BY THE FLAVOUR

The resolution committee at the convention of Saskatchewan dairymen held in February, 1911, brought in a resolution to the general convention recommending the approval and adoption of the principle and practice of grading cream and paying an extra price per pound of butter fat for quality as determined by flavour. The resolution was carried unanimously following a lengthy discussion.

In arranging the programme for last year, Mr. C. P. Marker, Dairy Commissioner for Alberta, at my request, consented to address the convention on the subject of which the foregoing resolution is the result. For some time I had been collecting information on the results obtained where the paying-for-quality, or grading system had been in operation. In addition I had carefully considered the principle of the work and endeavoured to view it from every conceivable standpoint, including the views of those who would favour and those who would oppose it. With a fairly intimate knowledge of the quality of cream that was being delivered at the various creameries and knowing a great many of the farmers personally I realised that there would be a division of opinion among them and I felt that a premature forward movement would not strengthen the position. For myself the whole question had resolved itself into a question of "justice" and believing that the time had come when the system should be discussed I was glad to have Mr. Marker's consent to place his name on our programme.

Those who had the privilege of hearing him will readily recall the splendid results of his work following the introduction of the paying-for-quality system. The thorough manner with which he dealt with the subject will, no doubt, be remembered by last year's delegates. Personally, I was pleased and I am sure all interested dairymen were pleased, to have the committee bring in a resolution favouring the adoption of the grading system; and to have it indorsed unanimously by the convention was most gratifying and gave evidence of their desire to have such methods introduced as would tend to encourage and reward the best dairy farmers and at the same time stimulate the somewhat indifferent or careless producer to improve the quality of his cream.

Realising that the system was quite new to our dairymen, that most of them were unfamiliar with the work contemplated, and that some, probably many, would consider it unworkable or that our conditions did not warrant the change, and also that some would oppose it for obvious reasons or merely on general principles, it was considered advisable to delay making any recommendations until the spring of 1912. In the interval the dairy branch has endeavoured to place the matter before as many of the patrons as possible, explain what is

meant by "grading cream," obtain their views, note their objections, and generally to explain the advantages of the system. The matter of circularising the farmers was considered but it was finally concluded that it would be more acceptable to the farmer and insure to a great extent the ultimate adoption of the system, if it could be arranged to discuss the question verbally either by personal interviews, at meetings called specially for the purpose, or at the annual creamery meetings.

DAIRY INSTRUCTOR'S WORK.

The special duty of the dairy instructor in this province is to visit the dairymen on their farms and investigate the conditions under which they are working and make such suggestions as will be in keeping with the particular surroundings and which will enable the producer to improve the quality of the cream. Without dwelling on any of the many advantages that this policy possesses in the matter of instructing and promoting a feeling of harmony among the dairymen, I may say that the instructors in 1911 were specially requested to discuss the proposed method of grading cream with all farmers whom they visited and so far as time would permit to give them what information they could. Altogether 536 patrons were visited. Of these 280 favoured the introduction of the work, 2 opposed it and 254 would not commit themselves. The chief reason advanced by the latter class for their noncommittal attitude was that they preferred to withhold any expression of opinion until they were placed in a position to consider the details of the plan upon which the work was to be conducted.

ANNUAL CREAMERY MEETINGS.

During the month of January, 1912, four annual creamery meetings were held. With a view to giving every patron an opportunity of obtaining information and subsequently making an expression of his views, I had arranged to notify each by letter that the subject of grading cream would be brought up at the meeting, but in one or two instances the time was too short to permit of this. At Melfort about fifty farmers were present and at Birch Hills about seventy. Both of those meetings I attended and we had a full discussion on the subject. Melfort meeting adopted the system without a dissenting voice and Birch Hills with only two opposing it. Unfortunately my other appointments prevented me from attending Shellbrook and Wadena annual creamery meetings, but both, with that progressive spirit which always favours methods that make for advancement, have been reported by the respective secretaries as unanimously in accord with the suggestion. Knowing the other associations as I do I have good reason to believe that they will co-operate in this movement. (Since this address was given at the convention all the other annual creamery meetings have been held and without exception voted for the change.)

DAIRY INSTITUTE MEETINGS.

To further provide for giving complete information to our patrons a series of meetings will be held in each creamery district before the opening of the summer season and this subject will be dealt with. A personal letter will be sent to all of our patrons advertising the meeting and the subject. By the adoption of these various methods for the purpose of making known to the producer the details of the system we hope to eliminate suspicion and misunderstanding and at the same time enlist their sympathy by proper explanations.

ONE VALUABLE LESSON.

The most pleasing feature of the season's investigations was the large number of farmers who readily saw the justice of the plan and frankly stated that it would be within their rights to insist that quality be the basis of the value, and voiced their appreciation of the fact that we were advocating its introduction. Even those who had not been sending the best cream, and realised that a change in their work would be required to obtain the higher price, admitted its justice. The justice of the paying-for-quality system cannot be disputed; neither can the injustice of the present system. The admission of these two facts practically eliminates all adverse arguments regarding the change.

WHAT OF THE PAST?

This would be a perfectly natural question. Any progressive movement, or even a minor alteration in any plan of work, must be warranted by the general condition or some particular circumstance. Until recently co-operative dairying in Saskatchewan scarcely warranted anything. During the past five years, however, such splendid progress has been made as seems to justify the work now contemplated. Heretofore our efforts have been largely directed towards working out a suitable policy for our conditions and developing the industry. The following table shows the progress that has been made in both the summer and winter seasons since the Government four years ago announced its present policy, which has not been changed in the interval.

GOVERNMENT SUPERVISED CREAMERIES

Statement for Six Summer Months.

Year	No. of creameries	No. of patrons	Total lbs. butter	Average lbs. butter per creamery
1907	4	213	66,246	16,561
1908	5	533	220,282	44,056
1909	6	876	342,404	57,067
1910	7	1,166	462,221	66,031
1911	9	1,596	703,583	78,176

GOVERNMENT SUPERVISED CREAMERIES.

Statement for Six Winter Months.

Year	No. of creameries	No. of patrons	Total lbs. butter	Average lbs. butter per creamery
1907-8 -----	1	113	21,558	-----
1908-9 -----	2	182	31,267	10,422
1909-10 -----	3	338	45,500	11,300
1910-11 -----	4	450	64,635	16,138
1911-12 -----	9	539	39,876 to January 27th	

This development seems to indicate that we are following a policy that is businesslike and which has appealed to the farmers. I take it, too, that the grading of cream may be safely introduced because the principle is right, and the Saskatchewan farmers, if the above figures mean anything, are interested in dairying. There has been developed a splendid feeling of co-operation and harmony which will influence effectively the working out of the paying-for-quality system.

QUANTITY *versus* QUALITY.

The success that has been achieved in the past cannot be questioned so far as quantity is concerned. But there is another phase of the industry that is even more important. I refer to "quality" in the finished product, the butter. This bears a direct relationship to the quality of the cream delivered at the creamery by individual farmers, each of whom has a responsibility, and the sooner it is recognised the greater encouragement and greater interest will be manifested in every phase of dairying. I want, therefore, to present to the meeting a proposition which may be considered an advanced step in our work but which I believe will appeal to the delegates. Briefly it consists in giving a tangible reward, in the form of an increased monetary return, to the farmers who deliver cream in first class condition, which will grade No. 1 according to the standard fixed by a conference of our managers and instructors held in Regina on December 27, 1911. Some may ask why this new departure from the old system. The reasons are obvious.

1. Competition.
2. The demand for a higher standard of quality.
3. The possibility of obtaining a better price for our butter by improving its quality.
4. Our desire to offer only the best butter for sale and give the buyer the best value for his money.

COMPETITION AT THE PACIFIC COAST.

At the present time the most profitable market obtains at the Pacific coast. Their standard is fixed by the quality of the creamery butter made in British Columbia. Naturally it is high, because they

have advantages in the matter of feed, water and climate which lessen the difficulties of the dairymen. Our aim should be to attain that standard. Apologies for our conditions will not answer the purpose, but meeting the problems with a fixed determination to do better and eventually to overcome is the course that should be pursued.

EASTERN TOWNSHIPS

We also have competition from the Eastern Townships and Ontario, whose farmers have been following dairying for years. They are progressive and have been educated as to the best methods of handling and caring for their stock in every detail, and also for the milk and cream. Eastern Townships' butter has a reputation of its own. In December at the Dairy Conference at Ottawa the assistant dairy commissioner, Mr. Chapais, when replying to the welcome extended to the delegates by the Hon. Minister of Agriculture, stated that if anybody had travelled through the Eastern Townships twenty-five or thirty years ago they would have been certain of always having good butter on the table. They have made progress since then, and I can assure you they are after markets where quality determines the price. I cannot give any traveller in this country the assurance, with respect to Saskatchewan butter, that Mr. Chapais gave with reference to the Eastern Townships' butter.

NEW ZEALAND AND AUSTRALIA.

During the winter we have butter coming in from New Zealand and Australia. Their summer season corresponds with our winter period, and as a consequence their fresh grass butter enters into competition with Saskatchewan creamery butter after being held in storage for several months. These people specialise in dairying and the smallest details are not overlooked.

A HIGHER STANDARD OF QUALITY.

Butter that would pass as first class ten years ago would not qualify as such today. This standard is being fixed by the consumers as they are demanding from the retailer, who in turn demands from the wholesale dealer, clean, fresh, sweet flavoured butter possessing good keeping properties. If it lacks in any of these essentials it will only be accepted by the buyers when they cannot obtain an adequate supply of first grade butter.

You are probably aware that the make of butter during the winter months throughout all Canada will not supply the demand, while during the summer months there is a surplus. The natural course for the dealers to adopt is to buy butter during the summer months and hold it in cold storage to supplement the winter make in order to fill their customers' orders. Butter, therefore, that does not possess good keeping qualities may pass inspection when put into storage but be severely criticised when taken out for the trade. It is not sufficient to have butter clean in flavour when made, but it should possess this characteristic when sold to the consumer even at the end of six months. This can only be done by making it from good cream.

SECOND GRADE BUTTER.

There is a market for second grade or inferior butter but we have no desire to cater to such a trade. For some years to come there is likely to be quite enough of butter for that trade, while we are endeavouring to make only the best because we cannot hope to reach perfection at once. It will be a gradual process of education. It does not follow because the butter is sold that its flavour is what it ought to be; neither does it follow that because complaints are not received that the butter is what it ought to be. We should not shut our eyes to these facts but we should judge the butter as we find it and be honest and open in our criticism. We should know what butter will class as special, first and second, and the same applies to cream. If we do not follow this course we will be placed in the unfortunate position of having the trade point it out and in the meantime they may withdraw their support. With continued co-operation this can be avoided. So far as the dairy branch is concerned we shall endeavour to anticipate the dealer's requirements with the hope of having Saskatchewan butter in demand at all times rather than having to seek a purchaser.

FLAVOUR SUPREME.

We must all admit that the flavour of the cream determines the flavour of the butter and its bacterial content and development determine its keeping properties. Who then among our farmers is responsible for the good quality of butter and who is responsible for butter that will lose its fresh flavour in a short time? Here again any reasonable minded person will admit that the farmers who take care of the cream while on the farm and deliver it in splendid condition are the backbone and mainstay of the whole institution. On the other hand, the farmers who are careless and indifferent in their general dairy work on the farm are directly responsible for any butter that is manufactured which is off or strong in flavour and does not possess good keeping properties. Although the whole lot of cream is mixed together the former class raise the standard of quality for the latter and the latter reduce the standard for the former.

QUALITY SHOULD BE RECOGNISED.

Heretofore all patrons at a particular creamery have received a similar price for their product. No class distinction has been made. There has been no just reward given for services rendered. The man who knows and cares has been continually sacrificing his interests in favour of the man who doesn't know and doesn't care. I take the ground that it is our duty to offer a just recompense and reward to the patrons who do their work conscientiously and according to the best information they have; who are continually seeking more information and are the mainstay of our co-operative creamery work. The time is not far distant when they will demand, and rightly so, some recognition of their services and that their product be graded, as other farm products, and paid for accordingly. If they withdraw their patronage the indif-

ferent farmers will readily realize what their assistance meant to them in dollars and cents. The proposed change provides for a monetary reward to those who deliver first grade cream, and will prove an incentive to the patrons whose produce does not class as such, to better their methods and to qualify for the higher price.

Our creamery managers have unanimously agreed that our conditions now warrant this change; that patrons who supply first grade cream should receive two cents more per pound of butter fat than that paid for butter fat in second grade cream, and that two grades of cream be established as follows:

First Grade—Cream must be clean and fresh flavoured, preferably sweet, showing no sediment and of smooth and even consistency.

To qualify for this grade cream testing 35 per cent. or over and delivered at the creamery at least twice a week is recommended.

Second Grade—Sour or sweet cream, slightly off or strong in flavour, but of a smooth and even consistency.

Third Grade—Cream that does not qualify for grades one or two. This cream will be rejected.

PROPOSED WORKING PLAN.

Special sample bottles will be provided for holding the sample of cream to be graded. A sample of cream will be taken out of each can of cream accepted and the bottle kept in a cold bath until graded for flavour. In all cases the grading will be done the same day as the cream is received. All samples will be graded at a uniform temperature from 95 to 100 degrees. The flavour is more pronounced at this temperature and strong flavours will be easily detected. On the strength of these samples the farmer will receive the two cents per pound. For second grade cream two cents less per pound of butter fat will be paid.

OBJECTIONS.

The instructors' reports mentioned various minor objections by patrons that would likely be met with. Only two seemed to be at all reasonable.

1. Farmers receiving the lesser price would withdraw their support from the creamery.
2. Cream shippers and those living at some distance from the creamery would be placed at a disadvantage.

A closer examination of the first lessens any fear that one may have in this regard. This course will not likely be followed for three reasons:

1. To withdraw one's patronage will be a public acknowledgment that his cream was not good. This admission will not be made willingly.
2. Each will have a desire to earn the higher payment. He has something to work for. To withdraw his support will deprive him of revenue. To use a slang phrase "he cuts off his nose to spite his face."
3. His pride will not admit of his defeat.

WHICH CLASS WILL WITHDRAW?

Admitting that any of the foregoing will not prevent the patrons from withdrawing their support, we naturally ask which class will take this course? It admits of no discussion. It will be those who send inferior cream. Everything considered, can we afford to risk our reputation for the sake of pleasing the indifferent farmer? The quality of the butter will improve relatively in proportion to the quantity of second grade cream that is kept at home, and such men will not be depriving the careful, painstaking farmers of their just revenue.

CREAM SHIPPERS.

There is some ground for argument here, but as in the other instance can we afford to place the convenience of shippers ahead of the quality of our butter? We cannot have a creamery at every door, or every station. Some will have conveniences and others will have to overcome difficulties. But nothing is impossible to the man who is willing. Shippers can, and I believe will, take the necessary care of their cream that will entitle them to the premium payment. It will only be necessary to take greater precautions in milking, separating a richer cream, keeping a thermometer, cooling the cream to 50 degrees or below, cooling before mixing the fresh cream with the old cream, keeping it in a clean, cold place, covering the can with a wet burlap when going to the station and making close connection with the train. When it has to be left at the station over night it will be to the shipper's interest to see it placed under cover and properly protected from the heat. Similar precautions will have to be observed by those hauling their cream some distance. It does not always follow that the man living close to the creamery sends the best cream. In fact it is very often the reverse, as the shipper realises that extra care is required to have his cream accepted, while the other party takes advantage of the situation and neglects the quality. The two cent payment will be an incentive, in a tangible form, for both to do better.

CONTROLLING TEMPERATURE OF CREAM WHILE IN TRANSIT.

The following shows the results of experiments conducted by the Agricultural Experiment Station at Berkeley, California, with railroad shipping cans uncovered, covered with dry felt cover, and with wet felt or burlap cover.

	In the shade				In the sun			
	Start	1 hr.	3 hrs.	5 hrs.	Start	1 hr.	3 hrs.	5 hrs.
Temperature of air.....	99	100	99	98	114	128	110	104
Temperature of contents—								
No cover	60	61	78	82	60	80	92	96
Dry cover	60	62	65	66	60	65	70	73
Wet cover	60	62	66	67	60	64	68	70

This trial was made under conditions not likely to be encountered in Saskatchewan and by adopting these precautions together with equal care in the work throughout should not work a hardship on anyone.

Our industry is growing splendidly. Let us work together to achieve greater things.

LIST OF PUBLICATIONS

Of Interest to Farmers, Available for Free Distribution

PUBLISHED BY THE DEPARTMENT OF AGRICULTURE.

- Bulletin No. 2—Smut in Wheat.—T. N. Willing.
Bulletin No. 7—Weeds of the Farm and Ranch.—T. N. Willing.
Bulletin No. 14—Estimated Yield of Grain Crops in Saskatchewan in 1909.
Bulletin No. 15—Causes of Contamination and the Care and Preservation of Milk and Cream on the Farm.—W. A. Wilson.
Bulletin No. 16—Inquiry into the Hog Raising Industry.
Bulletin No. 17—Acreage of Grain Crops and Condition of Live Stock.
Bulletin No. 21—Methods of Soil Cultivation.—Hon. W. R. Motherwell.
Bulletin No. 22—Report of the First Annual Convention of Saskatchewan Dairymen.
Bulletin No. 23—Final Report on Grain Crops and Live Stock in Saskatchewan in 1910.
Bulletin No. 24—Hints for Flax Growers.—A. F. Mantle.
Bulletin No. 25—Fleshing Chickens for Market.—W. A. Wilson.
Bulletin No. 26—Estimated Acreage of Grain Crops and Report of Live Stock Conditions.
Bulletin No. 29—Final Report on Grain Crops and Live Stock.
Bulletin No. 30—The Grading of Cream.—W. A. Wilson.

Annual Report of the Department of Agriculture for each of the years 1905-1911 inclusive. (In these reports are preserved many addresses of public interest and much other data of value to agriculturists).

PUBLISHED BY THE COLLEGE OF AGRICULTURE.

- Bulletin No. 1—Farmers' Clubs.—F. H. Auld.
Bulletin No. 2—Classification for Horses.—W. J. Rutherford.

GENERAL.

- Alfalfa in Saskatchewan and the Alfalfa Growing Competition.—F. H. Auld and J. Bracken.
Report of the Saskatchewan Elevator Commission.

Any of the above publications may be obtained free of charge by addressing a request to the Department of Agriculture, Regina, Sask.